

# Biological Pesticides Promise Opportunity to Florida Nursery Industry

by DARCY MEEKER, IFAS

**A** University of Florida foliage expert has a novel idea for diversifying Florida's billion-dollar nursery industry, which some experts say is close to being over built.

Lance Osborne, researcher with UF's Institute of Food and Agricultural Sciences in Apopka, sees business opportunities for growers of ornamentals and foliage plants in producing biological controls -- bugs, fungi, bacteria and other organisms which attack only harmful bugs, microbes, and weeds.

"The world's leading producers of biologicals started out in the nursery business, and now they're using their greenhouses to produce organisms for biological pest control," Osborne said. The companies got into producing beneficials for their own use, then started selling them locally.

Biologicals are a cottage industry in Czechoslovakia and other Eastern Bloc nations, Osborne said. "We're on hold here, in Florida, waiting for quality control, but many companies are interested in it."

"At the moment, we're at catch-22 -- how do you develop a product without a market or develop a market without a

product?"

Nurseries are a natural starting point, both as producers and as consumers of new commercial biocontrol products, Osborne said.

Chemicals are not as desirable an option as they once were. The number of chemicals that are available is shrinking daily. Pests develop resistance to chemicals very quickly. Environmental concern and concern for employee welfare are mounting.

A number of roadblocks to commercializing biocontrol do not pertain to greenhouse production of foliage plants.

For example, you can't build a company on a product you sell only once. The citrus black fly (and the white fly that used to plague camellias in Florida) is controlled by a handful of tiny beneficial wasps released in South Florida in 1976. A spectacular success, it saves the citrus industry \$9.3 million a year. It was a one-shot deal -- nobody needs any more of those wasps -- but biocontrol is not a one-time self-sustaining operation in the greenhouse environment.

Nurseries need repeated doses of

biocontrol organisms for several reasons:

- They find they can't avoid some use of chemicals, which can disturb biocontrol organisms.

- As populations of pests are reduced by release of beneficial insects, the beneficials starve and must be replaced by additional releases. "In the nursery business, we aren't looking for balance, we're looking for eradication, and we want zero damage to the final product," Osborne said.

Greenhouses also make good candidates for biocontrol because they are relatively closed environments, compared to open fields.

Many in the nursery industry also know how to create the controlled conditions necessary to produce biologicals, and they have expertise about plants, bugs, weeds, and plant pathogens, Osborne said.

In addition, product value is high, so investment in the new technology can be justified.

"Of course, biocontrol organisms will have to be cleared with various agencies before they are released or sold," Osborne said, "but there is every reason to be excited about the potential of biologicals for the nursery industry." 🍏

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